Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RODNEY A. DEKONING,
DONALD R. HUMLICEK,
MAX L. JOHNSON,
and
CURTIS W. RINK

Appeal No. 1999-0568
Application No. 08/447,594

ON BRIEF

Before JERRY SMITH, LALL, and LEVY, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-3, 6-10, 13-17 and 20-24, which constitute all the claims remaining in the application.

The disclosed invention pertains to a method for transferring data from a host computer to a storage device using selectable caching strategies.

Representative claim 1 is reproduced as follows:

> 1. A method for transferring data to a storage medium, comprising the steps of:
>
> providing a controller having a cache memory;
>
> generating a cache-flushing parameter in a host computer;
>
> transferring the cache-flushing parameter from the host computer to the controller;
>
> writing a quantity of write request data from the cache memory of the controller to the storage medium in accordance with the cache-flushing parameter;
>
> initiating the writing step when an amount of unwritten write request data stored in the cache memory exceeds a first predetermined threshold value derived from the cache-flushing parameter; and
>
> terminating the writing step when the amount of unwritten write request data drops below a second predetermined threshold value derived from another cache-flushing parameter.

The examiner relies on the following references:

Baror	5,025,366	Jun. 18, 1991
Lautzenheiser	5,353,430	Oct. 04, 1994
Barajas et al. (Barajas)	5,506,967	Apr. 09, 1996

(filed Jun. 15, 1993)

Claims 1-3, 6-10, 13-17 and 20-24 stand rejected under 35 U.S.C. § 103. As evidence of obviousness the examiner offers Baror in view of Barajas with respect to claims 1,
6-8, 13-15 and 20-24, and adds Lautzenheiser with respect to claims 2, 3, 9, 10, 16 and 17.

Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of

skill in the particular art would not have suggested to one

of ordinary skill in the art the obviousness of the invention as set forth in the claims on appeal. Accordingly, we reverse.

Despite the two different rejections made by the examiner, appellants have indicated that for purposes of this appeal the claims will all stand or fall together as a single group (brief, page 16). Consistent with this indication appellants have made no separate arguments with respect to any of the claims on appeal. Accordingly, all the claims before us will stand or fall together. Note In re King, 801 F.2d 1324, 1325, 231 USPQ 136, 137 (Fed. Cir. 1986); In re Sernaker, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983). Therefore, we will consider the rejection against independent claim 1 as representative of all the claims on appeal.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v.

John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicants to overcome the prima facie case with argument and/or evidence. Obviousness is then determined

on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1051-52, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the brief have not been considered (see 37 CFR § 1.192(a)).

With respect to representative, independent claim 1, the examiner cites Baror as teaching a flexible cache system. The examiner acknowledges that Baror does not specifically teach the steps of transferring, writing, initiating and terminating as recited in claim 1. Barajas is cited as teaching a method for flushing a cache oriented computer architecture which has the above-noted four steps of claim 1. The examiner finds that it would have been obvious to the artisan to apply the technique of Barajas to the Baror system in order to

improve performance (answer, pages 3-5).

Appellants argue that the queuing scheme of Barajas relates to storing invalidation address signals in an invalidation queue. Appellants argue that invalidation address signals are not the same as unwritten write request data signals as recited in claim 1 so that the combined teachings of the applied prior art do not teach or suggest the invention as claimed (brief, pages 17-20).

The examiner responds that Barajas is directed to an adjustable cache writing policy which has the claimed steps (answer, page 6). Appellants respond that the invalidation address signals of Barajas are not the same as the unwritten write request data signals of claim 1 so that the steps of claim 1 which recite operations specifically performed based on unwritten write request data cannot be met by the operation in Barajas of queuing invalidation address signals (reply brief, pages 4-5).

We agree with the position argued by appellants. More specifically, we essentially agree with appellants that the queued invalidation address signals of Barajas are not the same as write request data stored in a cache memory. The steps of initiating and terminating in claim

1 based on an amount of unwritten write request data cannot be taught or suggested by the applied prior art because Barajas teaches flushing a memory based on the amount of invalidation address signals rather than on an amount of unwritten write request data. These two types of information are not equivalent, and the examiner has not presented a valid reason why it would have been obvious to apply Barajas' technique with respect to invalidation address signals to a cache flushing system based on unwritten write request data. Therefore, we do not sustain the examiner's rejection of claim 1 or of any of the other claims on appeal.

For the reasons noted above, the examiner's rejection of claims 1-3, 6-10, 13-17 and 20-24 is reversed.

REVERSED

JERRY SMITH Administrative Patent Judge	)	
PARSHOTAM S. LALL Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
STUART S. LEVY Administrative Patent Judge	)	

JS:hh

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